



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/799,403	03/12/2004	Bartley K. Andre	APL1P302/P3262	7320
22434	7590	12/20/2004	EXAMINER	
BEYER WEAVER & THOMAS LLP			GUSHI, ROSS N	
P.O. BOX 778			ART UNIT	
BERKELEY, CA 94704-0778			PAPER NUMBER	
			2833	
DATE MAILED: 12/20/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/799,403

Applicant(s)

ANDRE ET AL.

Examiner

Ross N. Gushi

Art Unit

2833

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-2/ is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 3/2/04 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Drawings

The drawings are objected to because the cross hatching does not conform to the guidelines as set out in MPEP section 608.02. In particular, the cross-hatching of the insulative portions (resin, plastic, etc.) of the assembly should be cross-hatched with alternating thick and thin diagonal lines.

Correction is required in response to this Office action and corrections may not be held in abeyance.

Applicant is required to submit acceptable corrected drawings within the time period set in the Office action. See 37 CFR 1.185(a). Failure to take corrective action within the set (or extended) period will result in **ABANDONMENT** of the application.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-21 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Numerous details of the actual structure of the connector have been omitted from the disclosure. As one glaring example, the details of how the redundant contacts

would actually be configured are omitted. Applicant states that "the contacts may be configured as a linear array of pins or pad." Specification Col.11, line 1. The drawings cryptically show a split black line leading from the contacts (see figure 5A). It is a mystery whether the contacts would be configured as separate contacts individually connected to separate power lines (something like how the signal contacts 4,5 in Davis are configured, see Davis figure 7), or whether the contacts would be two pairs of contacts (and two power wires) including bifurcated tines, comparable to those taught by the Davis as power contacts 6, see Davis figure 9, or whether a single power line would be attached to a single contact with 4 tines as suggested by Eichhorn et al ("Eichhorn"). Applicants' cryptic statement that "the contacts may be configured as a linear array of pins or pad" seems to suggest that none of these alternatives are contemplated, but rather some other unknown configuration using "pads" is preferred. The cryptic lines in applicants' figures seem to suggest a split or spliced wire. Another example of critical information that is omitted is that there is no suggestion as to how the contacts are secured to the housing. Are they embedded in the housing, or press fit, or something else. Are wires attached to the contacts? If so, how are the wires attached? If not, how is the connection made. Are the contacts of the receptacle attached to the circuit board? If so, how? If not, how is the connection to the board made? The preceding are merely examples of numerous critical details as to which there is no suggestion in the disclosure. Nevertheless, in anticipation of applicants' argument that actual structural details of the device are hardly necessary and well within the range of the skills of one with ordinary skills in the art, the claims are analyzed on the merits.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 3-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Regarding claims 3, the limitation of "the mating force therebetween being minimized by providing a small axial contact distance between the outer shell and inner electrode of the DC" is indefinite. The limitation inherently is relative to some unknown comparative connector. What is a "small" distance? The limitation is given little weight.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in —

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a);

Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Davis.

Regarding claim 1, Davis discloses a connector, comprising an outer shell (37, 38); and

an inner electrode disposed within the outer shell, the inner electrode having redundant power contacts 6 that are electrically isolated within the same plane, the redundant power contacts being laterally spaced apart equally relative to a central axis.

Regarding the limitation in the preamble that the connector is a "DC" connector, the limitation has been treated as a non-material limitation because the claim is drawn to a structure and the portion of the claim following the preamble is a self-contained description of the structure not depending for completeness upon the introductory clause and the preamble merely states a purpose or intended use of the subject matter. Kropa v. Robie and Mahlman, 88 USPQ 478 (CCPA 1951).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Davis as in claim 1 in view of Eichhorn et al. ("Eichhorn"). Davis does not show the connector as being reversible (due to the polarizing feature of the "cut corners" as seen clearly in figure 2). Eichhorn discloses reversible plug 6 and socket 5, where the polygonal shape of the mating connectors allows the plug to be mated in 0/180 degree configuration (i.e. the plug is reversible). At the time of the invention, it would have been obvious to configure the Davis connectors to be reversible, by substituting the cut corner polarizing configuration as shown in Davis with the reversible symmetrical

polygonal configurations as taught in Eichhorn. The suggestion or motivation for doing so would have been to enable use of the connector in a simple manner without the user having to pay attention to the orientation of the connector, for those applications where such simplification is desirable, as taught is Eichhorn, col. 2, lines 15-25.

Claims 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Davis as in claim 3.

Regarding claim 4 and the particular dimensions, claimed variations in relative dimensions, which do not specify a device which performs or operates any differently from the prior art, do not patentably distinguish applicant's invention. Gardner v. TEC Systems, Inc., 725 F.2d 1338 (Ct. App. Fed. Cir. 1984). At the time of the invention, it would have been obvious to vary the Davis axial contact distance as desired and such variations would have been a matter of engineering design choice without patentable significance.

Per claim 5, Davis does not use locking mechanisms.

Per claim 6, Davis uses retention mechanisms (see e.g. the dimples in the shell in figures 1, 5, 6, 7, etc. and the cantilevered tongues in the shell shown in figures 3, 4, etc.)

Claims 7-13 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Davis and Eichhorn as discussed regarding claims 1-6.

Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Davis and Eichhorn as in claim 7 in view of Arai. To the extent that it may be ambiguous in Davis whether there are holding flexures and recesses, Arai discloses

well known retention structures of holding tongue 344 engaging opening 422 (note that although undiscussed in Davis, it appears very likely in Davis that the concave dimple on the cantilevered beam on the outer shell 38 engages with the convex dimple on shell 37). At the time of the invention, it would have been obvious to include well known tongue and recess structures in the Davis shells as taught in Arai. The suggestion or motivation for doing so would have been to strengthen the coupling force of the mating connectors and ensure good electrical connection between the connectors (Arai col. 8, lines 65-67).

Claims 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Davis, Eichhorn, and Arai as discussed regarding claims 1-15 for the reasons given above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ross Gushi whose telephone number is (571) 272-2005. If attempts to reach the examiner by phone are unsuccessful, the examiner's supervisor, Paula A. Bradley, can be reached at 571-272-2800 extension 33. The phone number for the Group's facsimile is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

Application/Control Number: 10/799,403

Page 8

Art Unit: 2833

you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ROSS GUSHI
PRIMARY EXAMINER

A handwritten signature in black ink, appearing to read "Ross Gushi", written in a cursive style.